RG104 E-1 Box 139

Mint of the United States at Philadelphia,

MELTING AND REFINING DEPARTMENT,

Philadelphia, 10th April —, *1886.*

Sir

The accompanying Table represents the number of Melts made of Standard Silver, during the year, from February 1. 1885 to February 1st 1886. from which it appears that we made 8956 melts, of which 24 melts were condemned by the Assayer, as outside of legal toterance. This proportion of Condemned melts is only .0026797+ = .002⅔ of the whole No.

It is well known, to those conversant with the subject, that our Standard alloy of .900 Silver and .100 Copper is subject to a segregating process, at the moment of congelation, whereby coin cut out of the central part of the Ingot, is about .001 (1/1000) richer in silver than the metal near the outer edge of the ingot. Herein lies the difficulty of obtaining coin that will

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assay exactly .900 Silver to .100 Copper. Since the discovery of this variation some years ago, we have practised casting a few drops of melted silver into cold water, whereby the congelation of the silver is so instantaneously effected, that segregation cannot take place, and the assays of a drop at the beginning and end of a melt, being accordant, represent the exact composition of the Ingot. Experience has taught us that where the Ingot shows a fineness of .898 $\frac{3}{4}$, or a shade below it, then the coin made from that Ingot will be just .900.

The table herewith presented shows the variation's in fineness to which we are subject, from the tendency to segregation, and at the same time the mastery we have acquired over that tendency. Thus, of the 8956 Melts of Silver Ingots in the year 1885, &c. 8566 melts show only .001 $(\frac{1}{1000})$ as the variation between the extremes; — 8932 passed

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Mint of the United States at Philadelphia,

MELTING AND REFINING DEPARTMENT,

Philadelphia, _____ *, 188 .*

the Assayer, as correct for coinage, leaving only 24 melts condemned by the Assayer. I may remark that the greater part of the 24 melts, was condemned as not well mixed by the melter. The small proportion of about 1 in 800 represents the slight amount of carelessness or accident due to the Melter.

To give another and perhaps more striking view of the extent of our Silver melting for the year I may state that each melt averaged at least 3500 oz. Hence the amount of standard silver melted at the Mint in Philadelphia in 1885, &c. was

31,262,000 oz..

Respectfully

J. A. C. Booth

M. & R.

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MELTING AND REFINING DEPARTMENT,

Philadelphia, , 188 .

	898	898 1/4	898 1/2	898 3/4	899	899 1/4	899 1/2	Beyond 899 1/2	Coronet
1886 January	11	52	470	311	117	38	13	12	5
1885 February	3	6	74	325	86	39	22		
March	18	96	331	174	10	14	8	13	2
April	50	5	284	121	20	10		7	4
May	2	46	372	275	117	44		2	
June	4	48	238	225	145	74	13		3
July	2	34	171	153	88	25	1	5	1
August	23	124	340	154	72	20	5	3	0
September	10	91	273	244	115	58	33	4	2
October	7	65	400	242	112	49	10	2	1
November	25	123	311	209	123	31	7	1	3
December	37	194	276	191	83	28	11	2	3
	192	884	3540	2624	1088	430	123	51	24

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2691½.

Phila. Pa.
April 10. 1886.

James C. Booth.
M. L. R.

Sends Table representing the number of Melts made of Standard Silver from Feby 1. 1885, to Feby 1. 1886

Rec'd April 10. 1886

NARA RG104, Entry 1, Box 139

[Abstract:] Sends Table representing the number of melts made of Standard Silver from Feby. 1, 1885, to Feby. 1, 1886.

Mint of the United States at Philadelphia,
Melting and Refining Department,
Philadelphia,
April 10, 1886

Sir

The accompanying Table represents the number of Melts made of Standard Silver, during the year, from February 1, 1885 to February 1st 1886, from which it appears that we made 8956 melts, of which 24 melts were condemned by the Assayer, as outside of legal tolerance. This proportion of Condemned melts is only 100267974 = .002 2/3 of the whole No.

It is well known, to those conversant with the subject, that our Standard alloy of .900 Silver and .100 Copper is subject to a segregating process at the moment of congelation, whereby coin cut out of the central part of the Ingot is about .001 (1/1000) richer in silver that's the metal near the outer edge of the ingot. Herein lies the difficulty of obtaining coin that will assay exactly .900 Silver to .100 Copper. Since the discovery of this variation some years ago, we have practiced casting a few drops of melted silver into cold water, whereby the congelation of the Silver is so instantaneously effected, that segregation cannot take place, and the assays of a drop at the beginning and end of a melt, being accordant, represent the exact composition of the Ingot. Experience has taught us that where the Ingot shows a fineness of .898 ¾, or a shade below it, then the coin made from that Ingot will be just .900.

The table herewith presented shows the variations in fineness to which we are subject, from the tendency to segregation, and at the same time the mastery we have acquired over that tendency. Thus, of the 8956 Melts of Silver Ingots in the year 1885, &c. 8566 melts show only .001 (1/1000) as the variation between the extremes: - 8932 passed the Assayer, as correct for coinage, leaving only 24 melts condemned by the Assayer. I may remark that the greater part of the 24 melts, was condemned as not well mixed by the Melter. The small proportion of about 1 in 800 represents the slight amount of carelessness or accident due to the Melter.

To give another and perhaps more striking view of the extent of our Silver melting for the year I may state that each melt averaged at least .3500 oz. Hence the amount of standard silver melted at the Mint in Philadelphia in 1885, &c. was 31,262,000 oz.

Respectfully,
Jas. C. Booth
M & R

NARA RG104, Entry 1, Box 139

Mint of the United States at Philadelphia,
Melting and Refining Department,
Philadelphia, ____, 188_.

	898	898 ¼	898 ½	898 ¾	899	899 ¼	899 ½	Beyond 899 ½	Condemned
1886 January	11	52	470	311	117	38	13	12	5
1885 February	3	6	74	325	86	39	22		
March	18	96	331	174	10	14	8	13	2
April	50	5	284	121	20	10		7	4
May	2	46	372	275	117	44		2	
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November	25	123	311	209	123	31	7	1	3
December	37	194	276	191	83	28	11	2	3
	192	884	3540	2624	1088	430	123	51	24